Remarks

Claim 44 has been amended to incorporate the features of claim 45 and claim 45 has been deleted. Claims 46, 47, 49, 50, 52 and 53 have been amended to correspond with claim 44. Further basis for the amendment to claim 50 can be found in Figure 8 and the associated text. Independent claim 57 has been amended in a manner corresponding to claim 44 and basis can be found in claims 44 and 45 as originally filed and in Figure 8.

In section 2 of the office action the Examiner rejects claims 44-65 under 35 U.S.C. §112 first paragraph as failing to comply with the written description requirement. The Examiner argues that the claims containing the phrase "a magnitude of" contains subject matter which was not described in the specification at the time the application was filed. The Applicants respectfully submit that RF power detectors were well known at the time the application was filed and can be purchased from a number of companies (e.g. Linear Technology). This is also demonstrated in the cited patent application of Fujita (Publication No. US2001/0009467) as shown in Figure 1, item 110. Furthermore, it is clear from the specification of this application on page 37 lines 25-31 which refers to "a maximum in the RF power" and "a null in the RF power" that the Applicants are referring to the magnitude of RF power. This magnitude is clearly shown in the graphs of Figures 9, 11, 14 and 15. The Applicants therefore submit that there is no question of adding new matter.

In section 4 of the office action the Examiner rejects independent claim 44 under 35 U.S.C. §103(a) as being unpatentable over Fujita in view of Dimmick ("Optical Dispersion Monitoring Technique Using Double Sideband Subcarriers", IEEE Photonics Technology Letters, Vol. 12, No. 7, July 2000). Reconsideration is requested.

Fujita describes a dispersion compensation monitoring device (Fujita, abstract). The Examiner acknowledges that Fujita does not specify that the modulated signal has

upper and lower sidebands. However, additionally Fujita does not teach or disclose "deriving a plurality of RF signals each having a respective narrow bandwidth within the RF data spectrum" (this application, claim 44). Fujita does use filters to determine the level of dispersion compensation, however Fujita uses high pass filters (Fujita, Figure 1 item 111) and/or low pass filters (Fujita, Figure 8 items 814 and 818, and paragraph 0112 line 7). Use of such filters means that Fujita could not derive RF signals having a respective narrow bandwidth as by their inherent nature low pass filters and high pass filters just filter out frequencies which fall to a particular side of a threshold frequency (as shown in Fujita, Figure 5). Consequently the present invention as defined by the amended claim 44 is clearly not anticipated by Fujita.

Dimmick describes an "optical dispersion monitoring technique using double sideband subcarriers" (Dimmick, title). Although Dimmick teaches use of double sideband subcarriers, Dimmick does not teach "deriving a plurality of RF signals each having a respective narrow bandwidth within the RF data spectrum" (this application, claim 44 emphasis added). Instead Dimmick teaches use of tones outside the signal bandwidth to perform monitoring (Dimmick, page 901, first column). Consequently the present invention as defined by the amended claim 44 is clearly not anticipated by Dimmick.

As Fujita and Dimmick fail to disclose either alone or in combination "deriving a plurality of RF signals each having a respective narrow bandwidth within the RF data spectrum" (this application, claim 44) a skilled person could not combine the teachings to arrive at the present invention and the Applicants respectfully submit that the rejection of claim 44 under 35 U.S.C. §103(a) therefore cannot be sustained.

In section 5 of the office action the Examiner rejects claim 44 under 35 U.S.C. §103(a) as being unpatentable over Akiyama (US 6,661,974) in view of Dimmick. Reconsideration is again requested.

Akiyama describes "an optical transmitter having a function which compensates for wavelength dispersion" (Akiyama, abstract). The Examiner acknowledges that Akiyama does not specify whether the modulated signal has upper and lower sidebands. In addition, Akiyama does not teach "deriving a plurality of RF signals each having a respective narrow bandwidth within the RF data spectrum" (this application, claim 44 emphasis added). Instead Akiyama teaches that one can monitor the signals of different wavelength channels in order to monitor dispersion (Akiyma, column 43 lines 23-46 and Figure 60). The teaching of Akiyama is therefore clearly distinct from monitoring multiple RF frequencies within the RF data spectrum as in this application. Consequently the present invention as defined by the amended claim 44 is clearly not anticipated by Akiyama.

The Examiner argues that a skilled person combining the teachings of Akiyama and Dimmick could arrive at the present invention. However as discussed above, Dimmick also does not describe "deriving a plurality of RF signals each having a respective narrow bandwidth within the RF data spectrum" (this application, claim 44) and consequently the present invention as defined by the amended claim 44 is clearly not obvious having regard to this combination of prior art teachings and the Applicants respectfully submit that the rejection cannot be sustained.

In section 6 of the office action the Examiner rejects claim 44 under 35 U.S.C. §103(a) as being unpatentable over Eggleton (US 6,370,300) in view of Heismann ("Automatic Compensation of First-Order Polarization Mode Dispersion in a 10Gb/s Transmission System, ECOC '98, 20-24 September 1998) and Dimmick. Neither Eggleton nor Heismann teach "deriving a plurality of RF signals each having a respective narrow bandwidth within the RF data spectrum" (this application, claim 44). Instead the teaching of Heismann provides "a simple scheme for spectrum optimization" which "involves minimising the low frequency components" (Eggleton, column 9 lines 30-32). Heismann teaches splitting the detected RF signal into two

with one half being low pass filtered and the other one not being filtered at all. As discussed above in relation to Fujita, a low pass filter cannot be used to produce a narrow bandwidth signal as required by claim 44 of this application and furthermore an unfiltered signal also does not have a narrow bandwidth.

As Eggleton, Heismann and Dimmick (see discussion above) fail either alone or in combination to disclose the feature of "deriving a plurality of RF signals each having a respective narrow bandwidth within the RF data spectrum". The Applicants submit that a skilled person could not combine the teachings of the prior art references to arrive at the present invention and therefore respectfully submit that the rejection of claim 44 cannot be sustained.

The Examiner also rejects independent claim 57 and the above arguments in relation to claim 44 are also applicable to the amended claim 57. The Applicants therefore respectfully submit that the rejection of claim 57 cannot also be sustained.

Detailed arguments are not presented in respect of the dependent claims. However, the arguments of the Examiner should not be taken to be accepted.

In view of the fact that all of the Examiner's comments have been addressed, further and favorable reconsideration is respectfully solicited.

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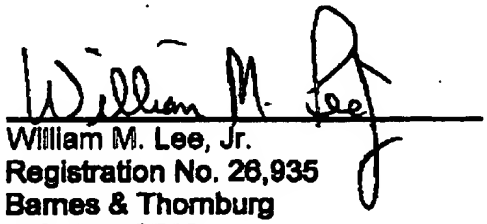
Respectfully submitted,



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